

ABSTRACT

An exposure apparatus has a light source comprising a laser device that is small and easy to maintain. The laser device comprises a laser oscillator for generating a single-wavelength laser beam (LB3) within a wavelength range including infrared and visible regions; an optical amplifier (18) for amplifying a laser beam (LB3); and a wavelength converter for converting the amplified laser beam into ultraviolet light using a nonlinear optical crystal. The optical amplifier (18) includes a plurality of stages of optical fiber amplifiers (22, 25) for sequential amplification of the laser beam (LB3), and a narrow-band filter (24A) and an isolator (IS3) arranged between optical fiber amplifiers.